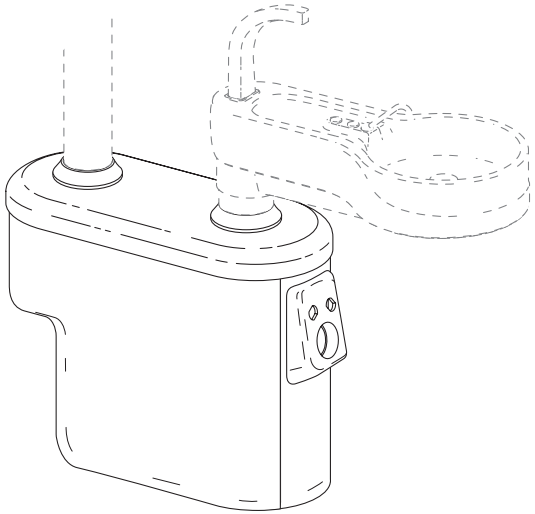
Post Boxes and Cuspidors

Overview

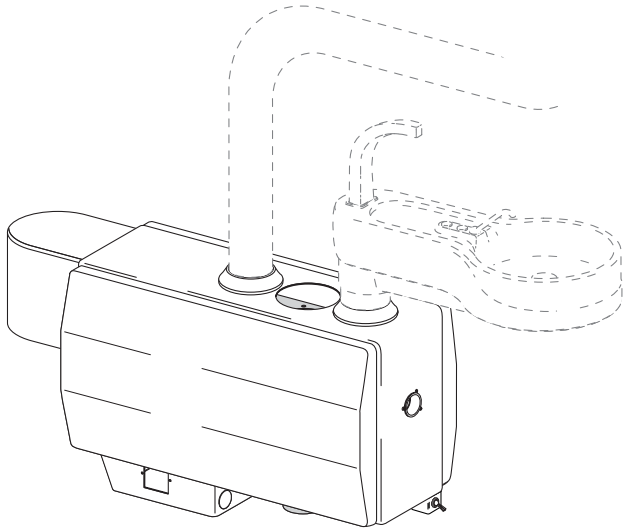
This section provides information related to servicing, maintaining, and adjusting post boxes and cuspidors. Details on how to troubleshoot specific problems relating to post boxes and cuspidors are presented. For more information on service parts, see the *Genuine A-dec Service Parts Catalog*, P/N 85.5000.00 or contact customer service.

Identifying Post Boxes

The following pages provide instructions, descriptions, part numbers, and flow diagrams that will assist you while servicing and troubleshooting post box assemblies. Information for both Cascade domestic and Cascade international post boxes are shown.



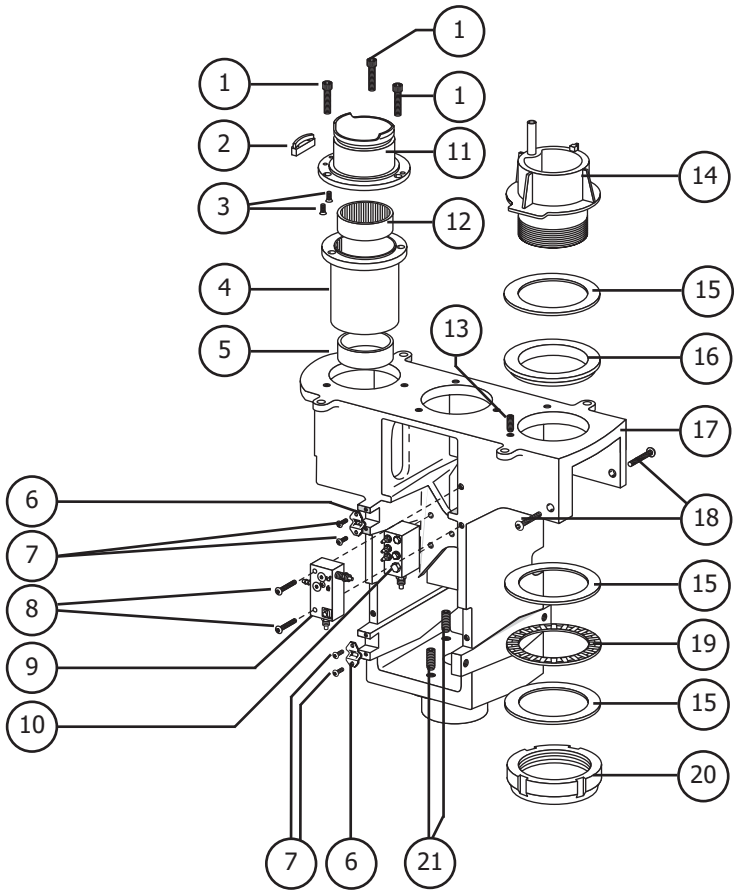
Cascade Post Box



Cascade International Post Box

Cascade Post Box

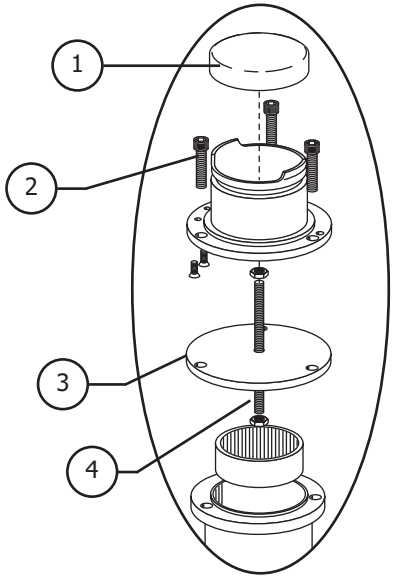
Item #	Part Number	Description
1	001.009.00	Screw, socket head
2	75.0127.00	Stop
3	001.122.01	Screw, flat head socket
4	75.0125.00	Bearing carrier
5	016.100.00	Bearing sleeve
6	005.012.03	Screw, button head
6	042.221.00	Ball spring
7	002.118.00	Screw, button head
8	005.124.00	Screw, button head
9	75.0113.00	Water manifold assembly
10	75.0138.00	Air manifold assembly, w/o QDs
11	75.0126.00	Mounting hub
12	016.101.00	Roller bearing
13	007.023.00	Setscrew, 1/4-20
14	12.0931.00	Pivot hub
15	016.108.00	Thrust bearing, race
16	12.0911.00	Bushing
17	75.0139.00	Frame
18	005.010.01	Screw, button head
19	016.044.00	Thrust bearing, needle
20	61.0954.00	Lock nut
21	007.059.00	Setscrew, 3/8-16



Inside Cascade Post Box

Cascade Post Box

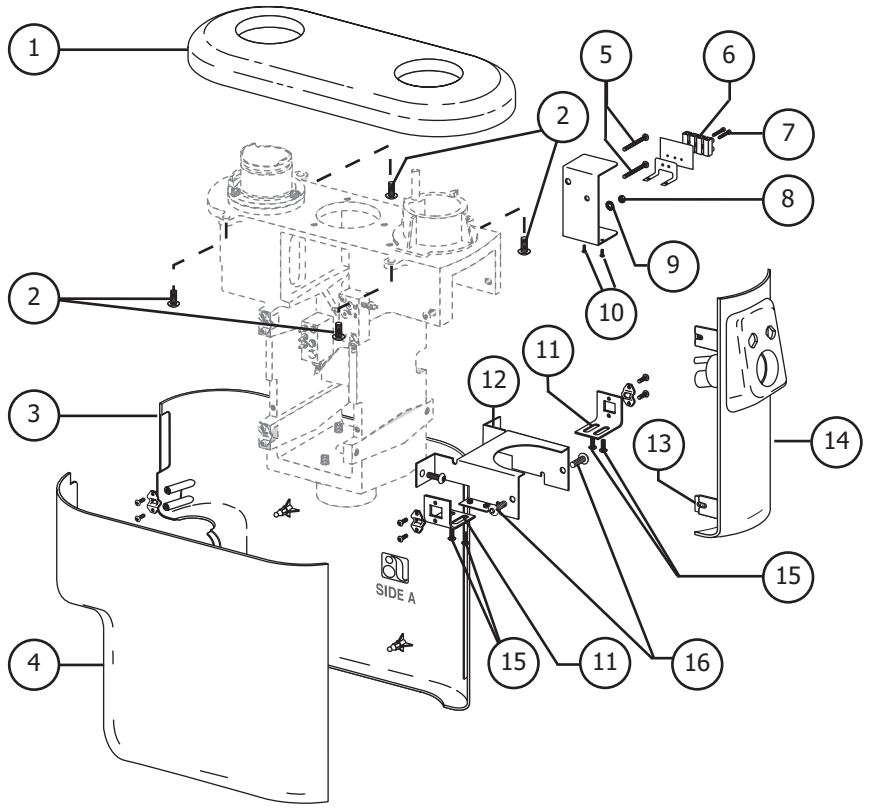
Item #	Part Number	Description
1	75.0089.00	Trim ring
2	006.002.00	Hex nut
3	75.0128.00	Spacer, bearing hub
4	75.0129.01	Rod



Inside Cascade Post Box

Cascade Post Box

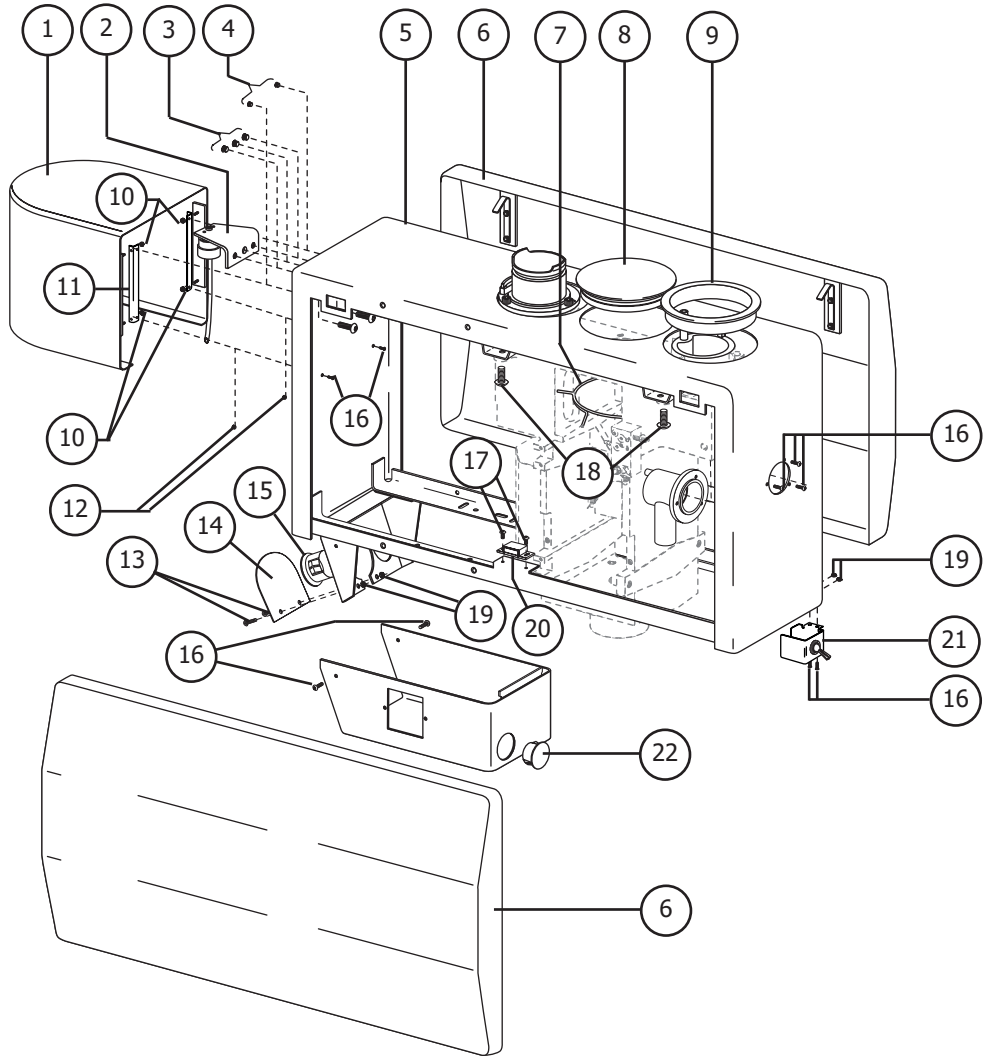
Item #	Part Number	Description
1	75.0068.00	Top cover
2	005.012.03	Screw, button head
3	75.0069.00	Side cover A
4	75.0070.00	Side cover B
5	005.110.00	Screw, button head
6	041.631.00	Terminal strip
7	001.021.00	Screw, socket head
8	006.002.00	Hex nut
9	004.076.00	Lock washer
10	002.097.00	Screw, button head socket, special
11	75.0110.00	Side front bracket
12	75.0102.00	Umbilical bracket
13	75.0117.00	Nut plate
14	75.0071.00 47.1938.00 12.0165.00 12.0163.00	Vacuum housing w/vacuum Vacuum housing Int'l, w/o vacuum Vacuum housing assembly Vacuum housing w/o vacuum
15	002.015.00	Screw, pan head, phillips
16	005.012.03	Screw, button head



Outside Cascade Post Box

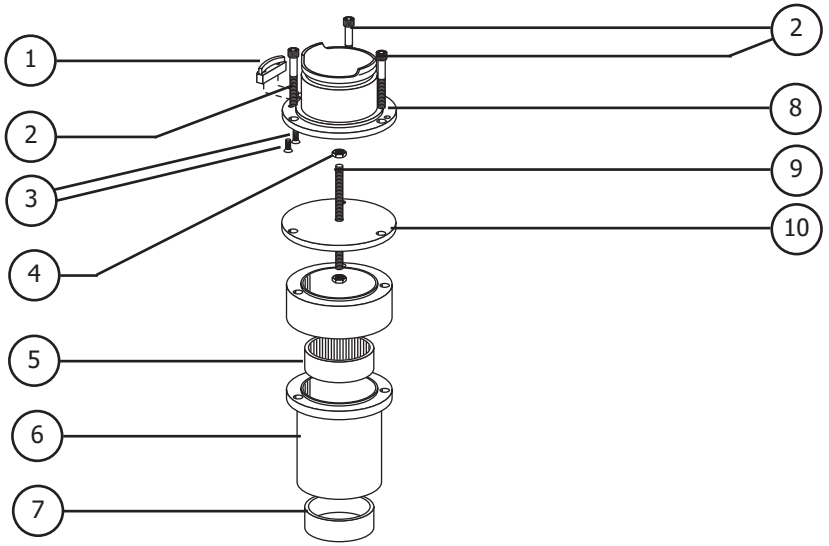
Cascade International Post Box

Item #	Part Number	Description
1	41.1112.00	Water bottle housing assy
2	47.1237.00	Cap
3	018.035.02	Hole plug, 1/4"
4	028.013.02	Hole plug, 5/32"
5	41.1200.00	Utility box weldment
6	41.0364.01	Side cover assembly
7	47.1349.00	Hole plug clamp
8	47.1348.00	Hole plug, 3-1/2"
9	41.1111.00	Trim ring
10	006.015.00	Hex nut
11	41.1114.00	Mounting bracket
12	028.013.02	Hole plug, 5/32"
13	005.138.00	Screw, button head socket
14	41.1436.00	Umbilical bracket hole cover
15	018.062.02	Hole plug, 1-3/8"
16	001.103.00	Screw, button head socket
17	002.097.00	Screw, button head, special
18	005.012.03	Screw, button head socket
19	006.016.00	Hex nuts, Kep
21	47.1347.00	Master toggle bracket
22	018.010.02	Hole plug, 1-1/4"



Outside Cascade International Post Box

Cascade International Post Box

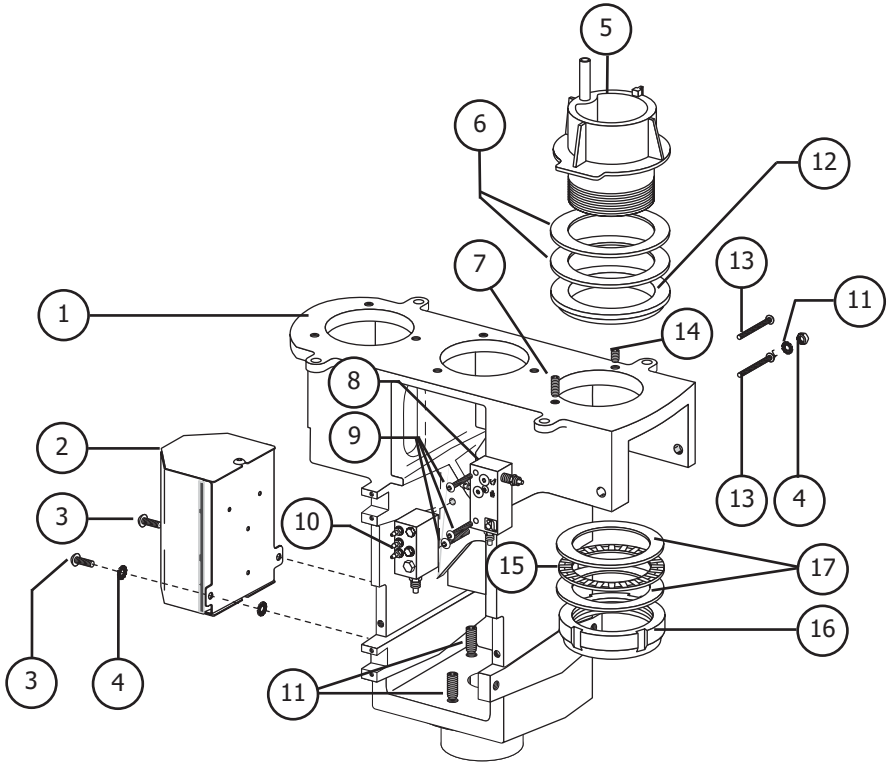


Inside Cascade International Post Box

Item #	Part Number	Description
1	75.0127.00	Stop
2	002.147.00	Screw, socket head
3	001.122.01	Screw, flat head socket
4	006.002.00	Hex nut
5	016.101.00	Roller bearing
6	75.0125.00	Carrier bearing
7	016.100.00	Sleeve bearing
8	75.0126.00	Mounting hub
9	75.0129.01	Rod

Cascade International Post Box

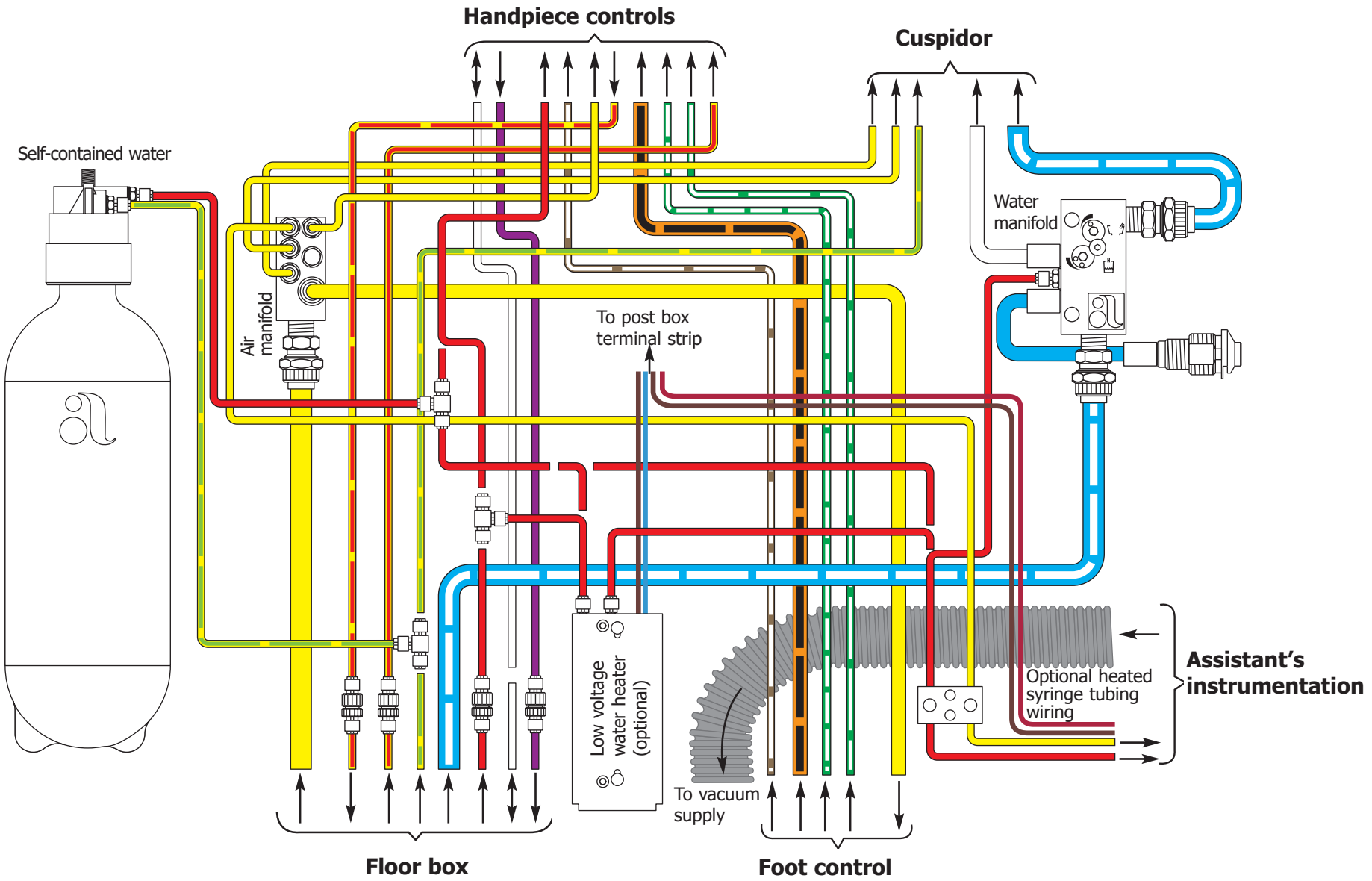
Item #	Part Number	Description
1	75.0139.00	Post box frame, master
2	47.1234.00	Electrical assembly
3	005.012.03	Screw, button head
4	004.076.00	Lock washer
5	12.0931.00	Pivot hub
6	016.108.00	Race, thrust bearing
7	007.023.00	Setscrew, 1/4-20 X 3/4
8	75.0113.00	Water manifold assembly
9	005.124.00	Screw, button head socket
10	75.0138.00	Air manifold assembly, w/o QDs
11	007.029.00	Setscrew, 3/8-16 X 1
12	12.0911.00	Cuspidor pivot bushing
13	005.110.00	Screw, button head, socket
14	007.017.00	Setscrew, 1/4-20 X 1/4
15	016.044.00	Needle, thrust bearing
16	61.0954.00	Lock nut



Inside Cascade International Post Box

Post Boxes and Cuspidors

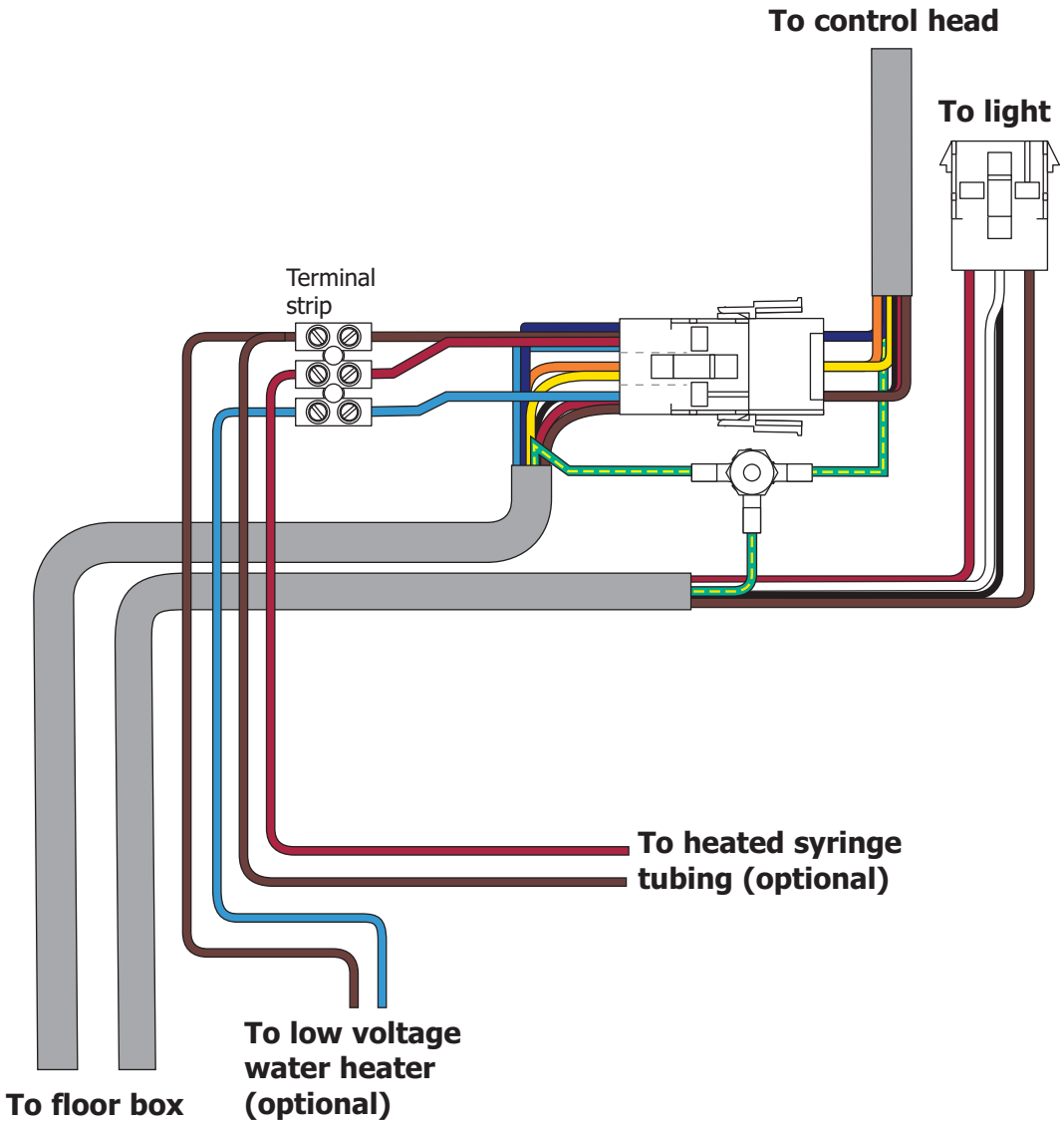
Post Box Air and Water Flow Diagram



Post Box Electrical Flow Diagram

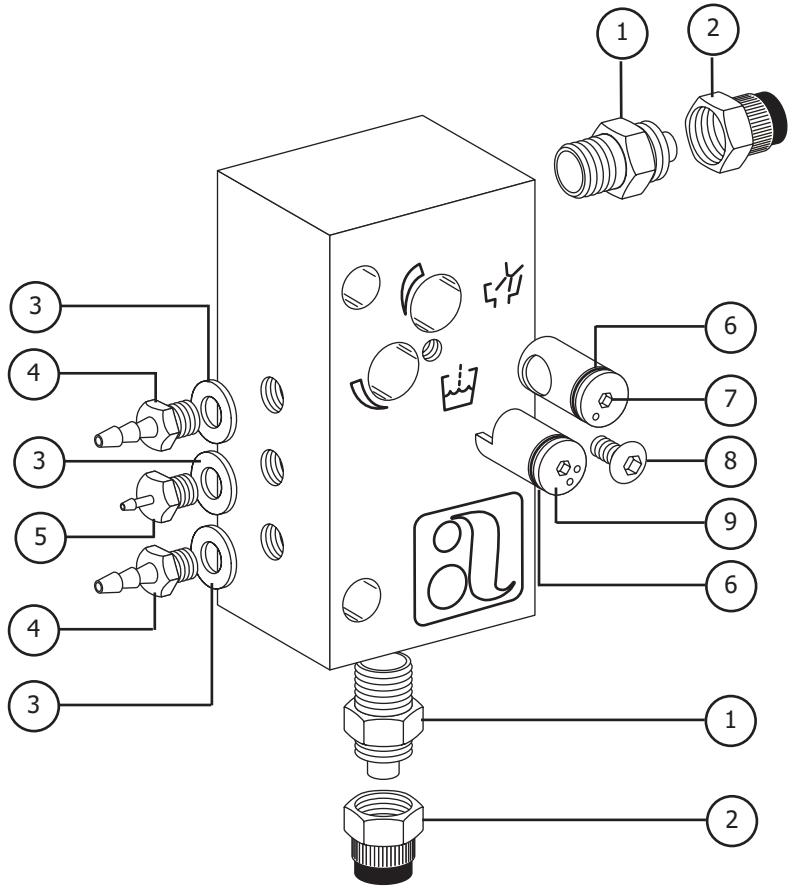
Terminal Strip Wiring Voltage

Wire Color	Voltage
Black or Brown	0
Blue or Grey	24
Red	6



Water Manifold Assembly

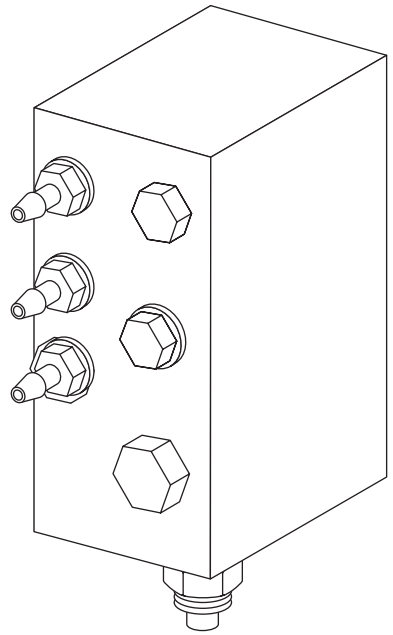
Item #	Part Number	Description
1	022.065.00	Adapter
2	022.014.01	Nut with sleeve
3	004.005.01	Washer
4	023.001.03	Barb, 1/4" pkg 10
5	023.004.03	Barb, 1/8" pkg 10
6	030.009.02	O-ring pkg 10
7	75.0108.00	Stem, fine flow adjustment
8	002.105.00	Screw, button head socket
9	75.0115.00	Stem, flow adjustment



75.0113.00 Water Manifold Assembly

Air Manifold Assembly

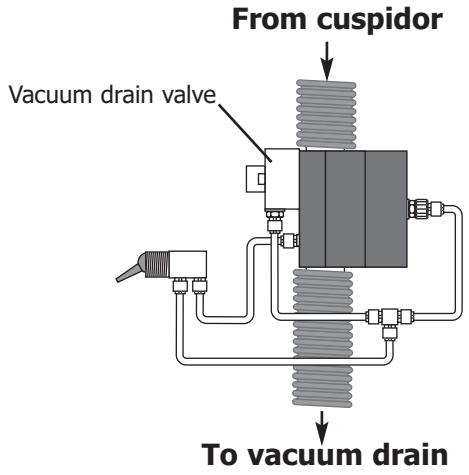
NOTE: Replace the air manifold as a complete assembly.



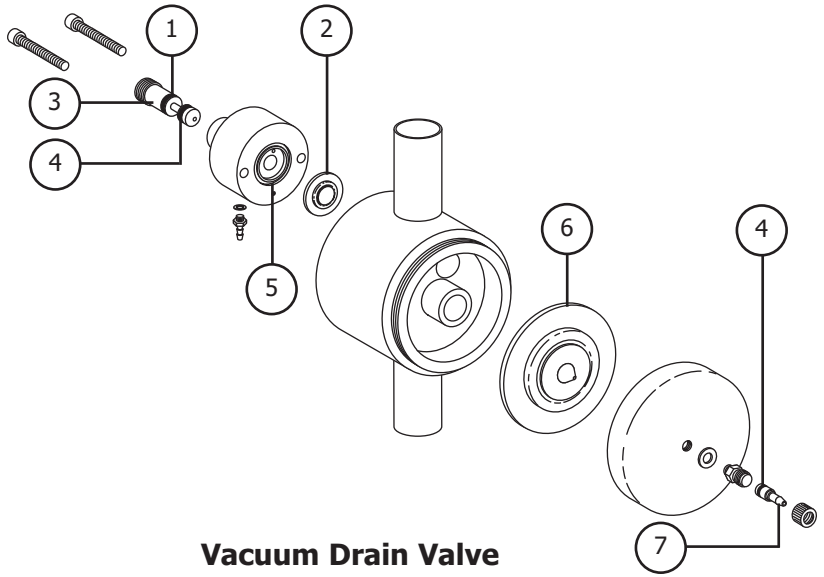
75.0138.00 Air Manifold Assembly

Vacuum Drain Valve

Item #	Part Number	Description
1	030.004.02	O-ring pkg 10
2	40.1082.00	Diaphragm, sensor
3	40.1086.00	Sensor stem with o-rings
4	030.003.02	O-ring pkg 10
5	030.001.02	O-ring pkg 10
6	40.1081.00	Diaphragm, vacuum
7	023.084.00	Male QD barb, with o-ring, 1/8"



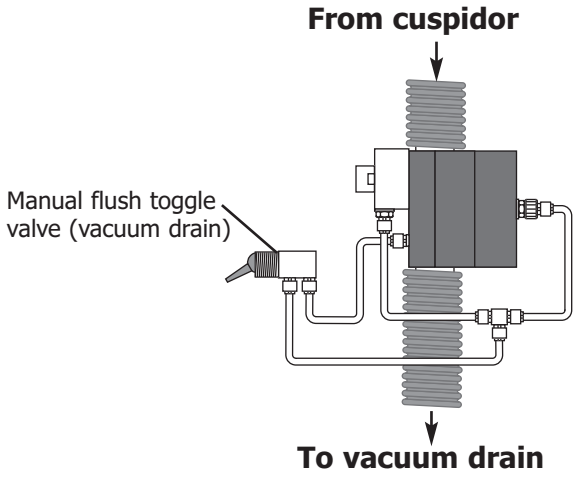
Vacuum Drain Valve



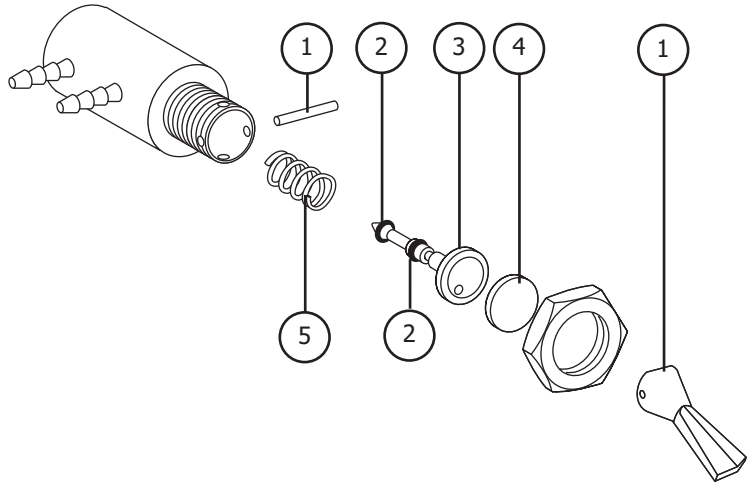
Vacuum Drain Valve

Manual Flush Toggle Valve

Item #	Part Number	Description
1	33.0037.01	Toggle and pin kit
2	030.001.02	O-ring pkg 10
3	29.0830.00	Stem with o-rings, 2-way
4	33.0007.00	Disk, brass
5	013.055.00	Spring



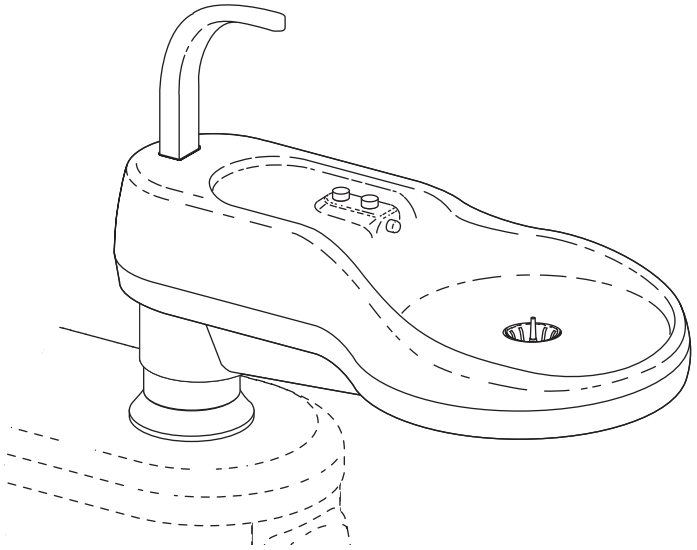
Vacuum Drain Manual Flush Toggle Valve Flow



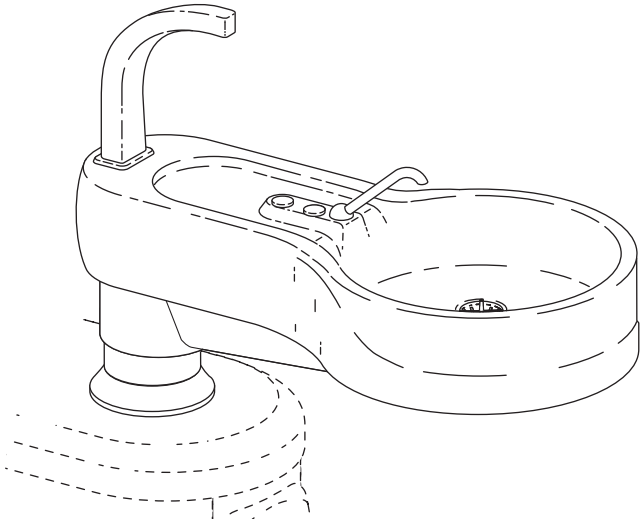
Vacuum Drain Manual Flush Toggle Valve Assembly

Identifying Cuspidors

The following pages provide instructions, descriptions, part numbers, and flow diagrams that will assist you while servicing and troubleshooting cuspidor assemblies. Information for both Cascade and Cascade Radius cuspidors are shown.



Cascade (Phenolic) Cuspidor

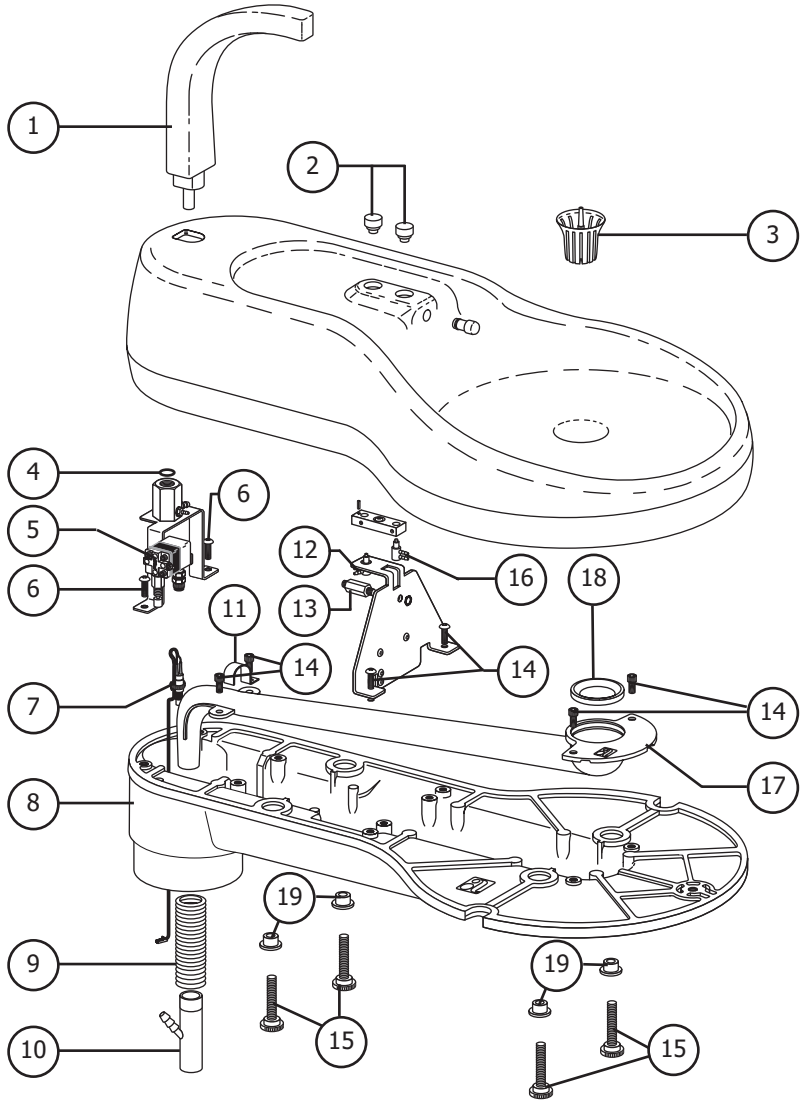


Cascade 7284 and Radius 7285 (Vitreous china) Cuspidor

Cascade Cuspidor

(Phenolic) Before serial number A650244

Item #	Part number	Description
1	75.0039.00	Contoured spout
2	12.0908.01	Button with actuator pkg 2
3	75.0035.01	Screen
4	030.011.02	O-ring
5	12.0913.00	Timed bowl rinse valve
6	001.016.01	Screw, button head socket
7	12.0915.00	N.O. momentary switch assembly
8	12.1144.00	Baseplate
9	024.152.01	Convoluted tubing, Surf 4, 10'
10	40.0783.00	Y-adapter
11	12.0914.00	Tubing clip
12	33.0138.00	3-way micro-valve, cup-fill assembly (replace as a complete assembly)
13	12.0954.01	Lo-flo needle valve
14	001.016.01	Screw, socket head
15	12.1054.02	Mount screw assembly
16	33.0134.00	2-way micro-valve, cup-fill assembly (replace as a complete assembly)
17	75.0052.00	Drain tube
18	12.1024.00	Seal
19	006.133.01	Expansion mounting nut pkg 4

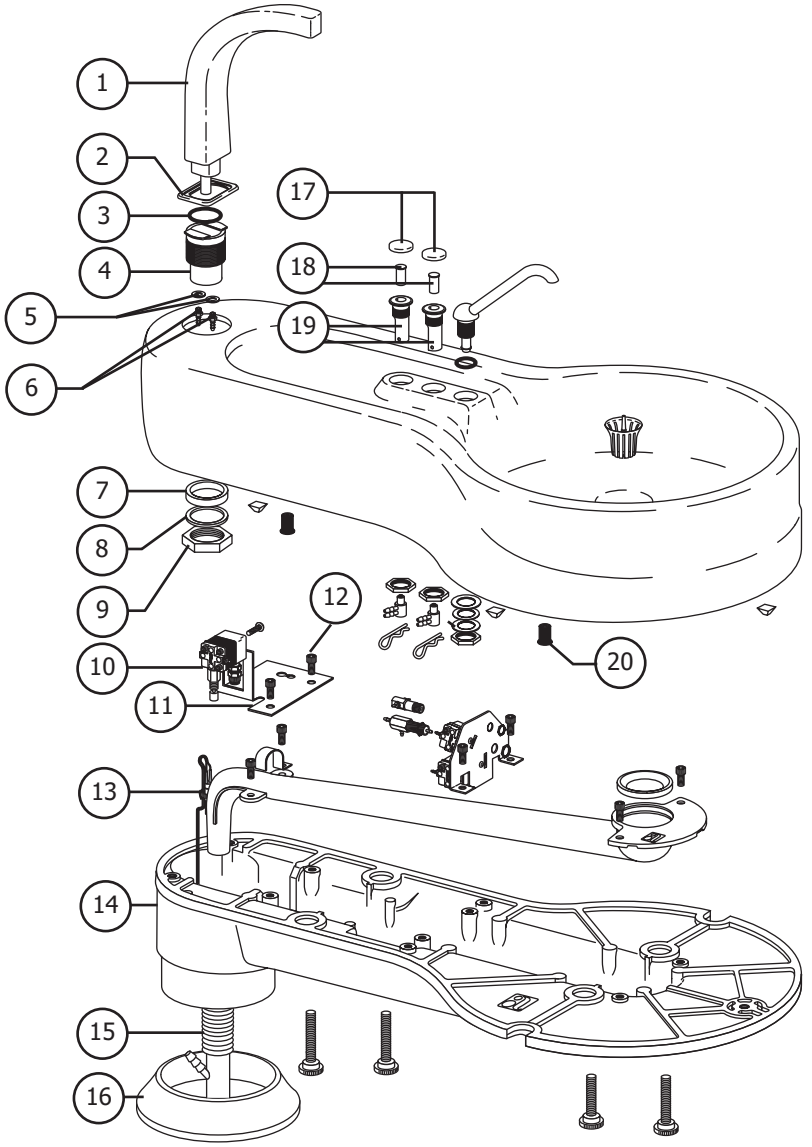


Cascade Cuspidor

Cascade Cuspidor

(Vitreous China) Starting with/after serial number A650244

Item #	Part Number	Description
1	75.0039.00	Contoured spout
2	75.0145.01	Gasket pkg 5
3	030.011.02	O-ring
4	12.1040.00	Socket
5	004.005.02	Washer
6	023.004.03	Barb, 1/8" pkg 10
7	004.203.00	Washer, BUNA-N
8	004.126.00	Washer, nylon
9	006.134.00	Hex nut
10	12.0913.00	Air timed bowl relay assembly
11	12.1042.00	Bracket
12	001.016.01	Screw, socket head
13	12.0915.00	N.O. momentary switch assembly
14	12.1144.00	Baseplate
15	024.152.01	Convoluted tubing
16	75.0060.00	Trim ring
17	75.0091.00	Button
18	12.1079.00	Valve actuator
19	12.1080.00	Valve retainer
20	12.1054.02	Mounting screw

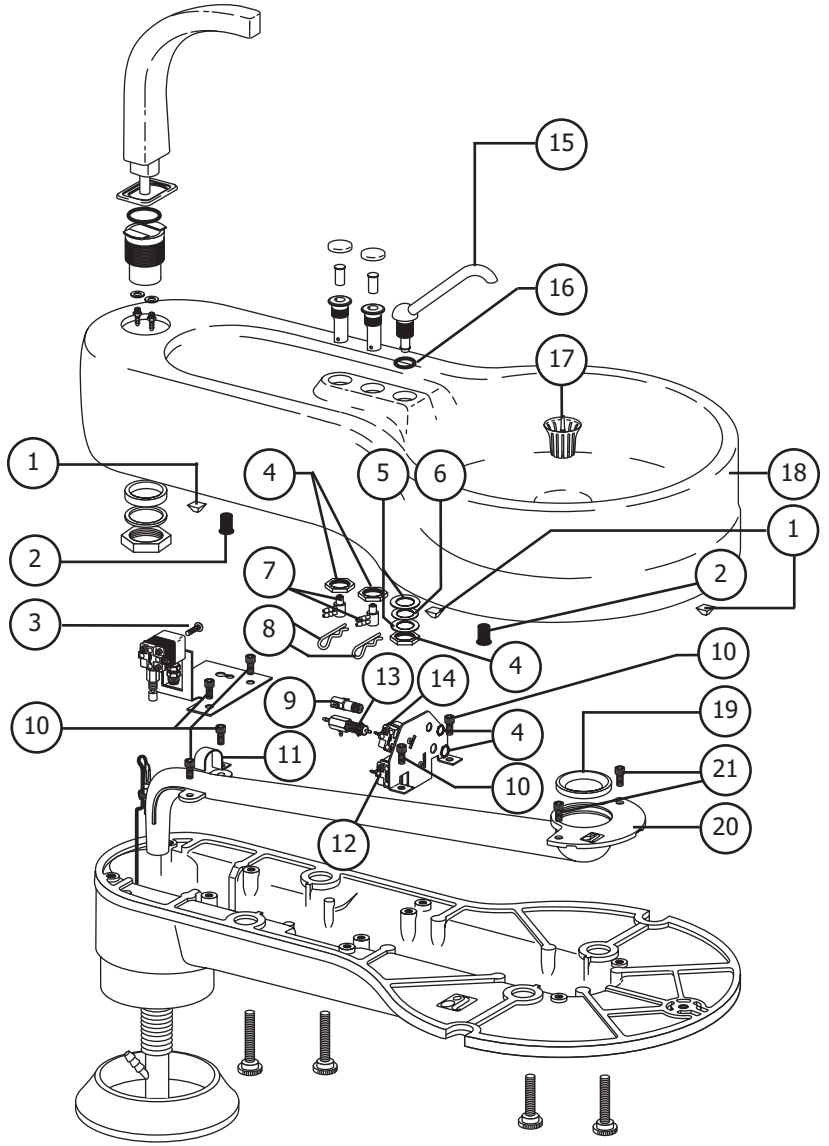


Cascade 7284 and Radius 7285 Cuspidor

Cascade Cuspidor

(Vitreous China) Starting with/after serial number A650244

Item #	Part Number	Description
1	017.019.00	Bumper
2	006.133.01	Expansion nut
3	001.056.00	Screw, pan head phillips
4	006.009.00	Hex nut
5	004.140.00	Washer
6	004.068.00	Washer
7	33.0138.00	3-way micro-valve, cup-fill valve assy
8	011.082.00	Clip pin
9	90.0456.00	Cascade cup timer stabilization kit
10	001.016.01	Screw, socket head
11	12.0914.00	Tubing clip
12	12.0934.00	Cup fill relay assembly
13	12.0953.00	Mini, air pilot valve assembly
14	33.0160.00	3-way restricted diaphragm valve
15	12.1031.00	Bowl spout
16	030.014.02	O-ring
17	75.0035.01	Screen pkg
18	12.1035.00	Cuspidor bowl housing (starting w/ serial number A650244)
19	12.1024.00	Seal
20	75.0052.00	Drain tube
21	12.1054.02	Mount screw assembly

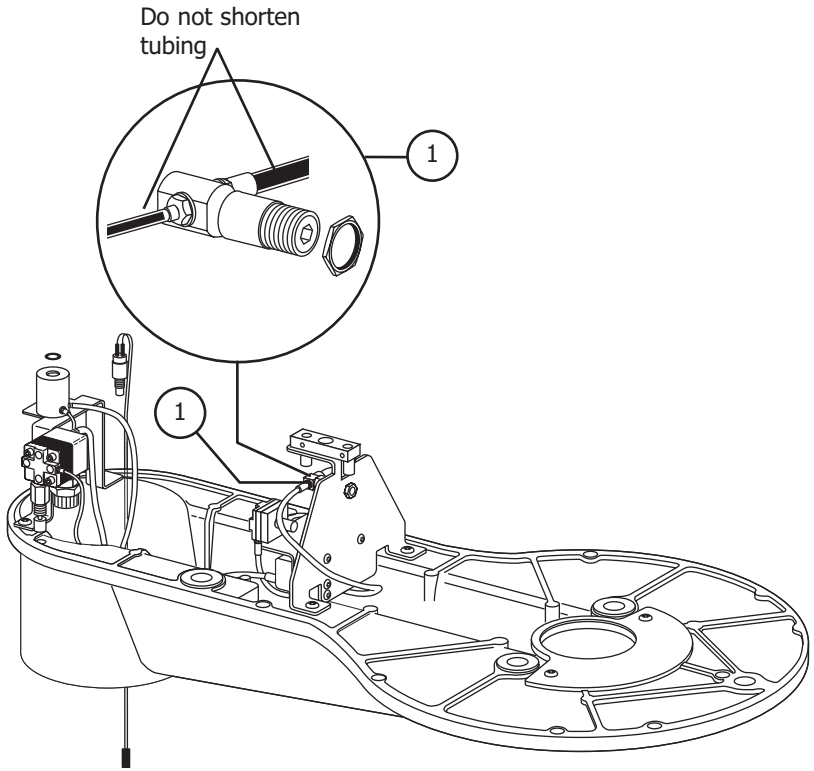


Cascade 7284 and Radius 7285 Cuspidor

Cup Fill Stabilization Kit
(After January 2000)

Item #	Part Number	Description
1	90.0456.00 12.0953.00 12.0954.01	Cup timer stabilization kit (replace on phenolic cuspidor and on vitreous china cuspidor)

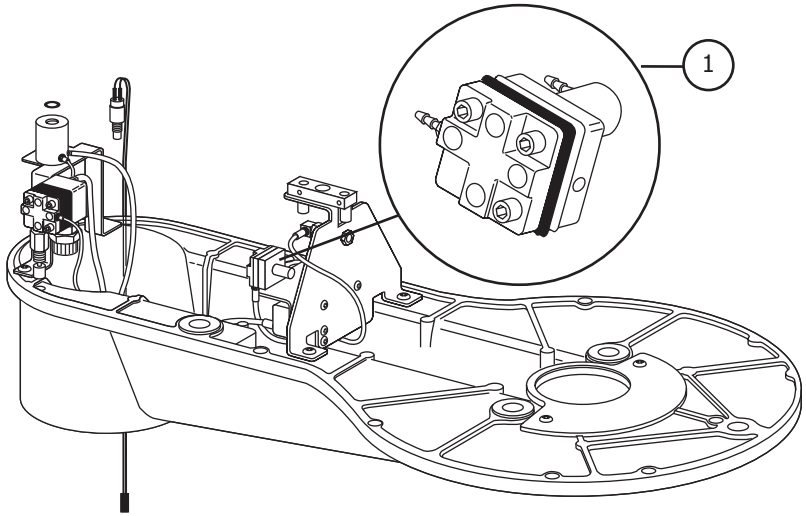
Note: Part number 13.0402.01 is a sub-assembly contained in the 90.0456.00 cup fill stabilization kit. Other part numbers included in the stabilization kit are not shown.



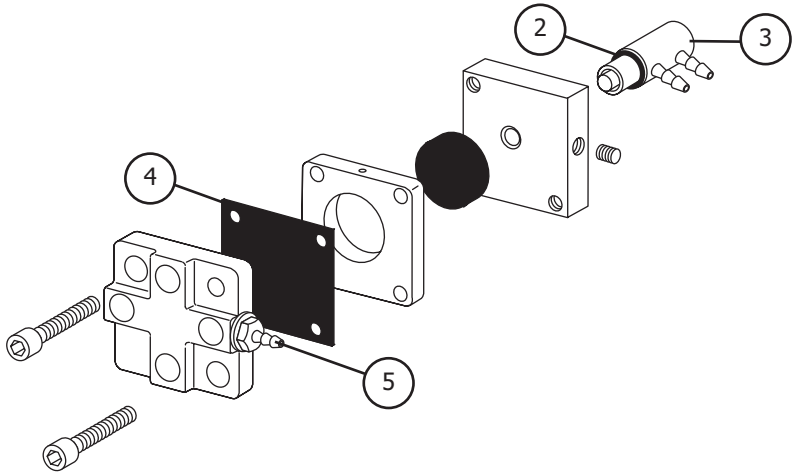
90.0456.00 Cup Fill Stabilization Kit

3-Way Restricted Diaphragm Valve

Item #	Part number	Description
1	33.0160.00	3-way restricted diaphragm valve
2	030.010.02	O-ring pkg 10
3	33.0138.00	3-way micro-valve
4	22.0440.02	Diaphragm pkg 10
5	023.036.00	Restrictor barb



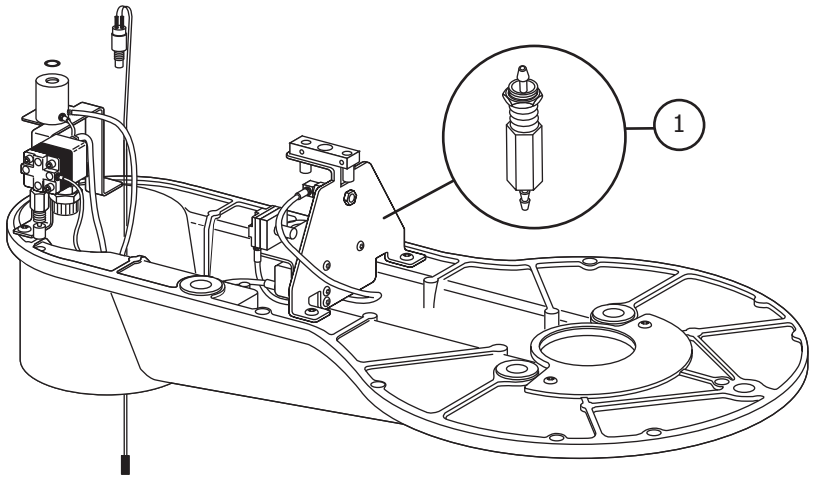
Location of 3-Way Restricted Diaphragm Valve



33.0160.00 3-Way Restricted Diaphragm Valve

Pilot Air Mini-Valve

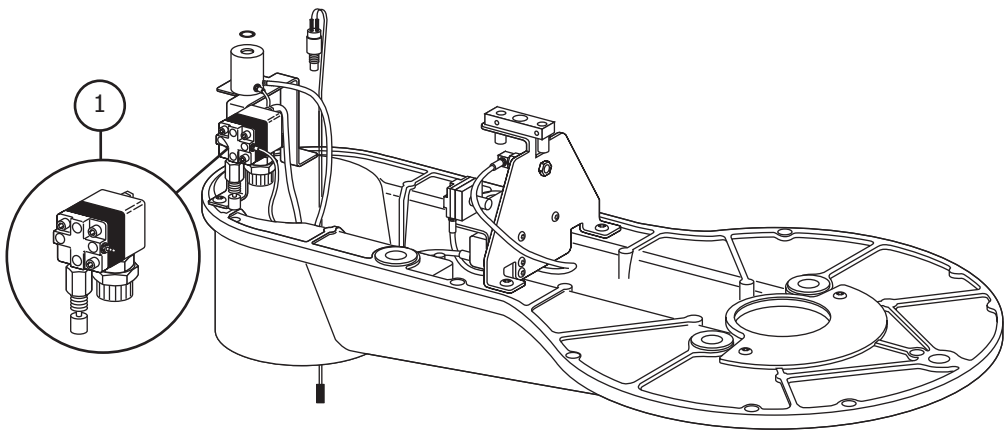
Item #	Part number	Description
1	12.0953.00 12.0954.01	Pilot air mini-valve (vitreous china) Pilot air mini-valve (phenolic)



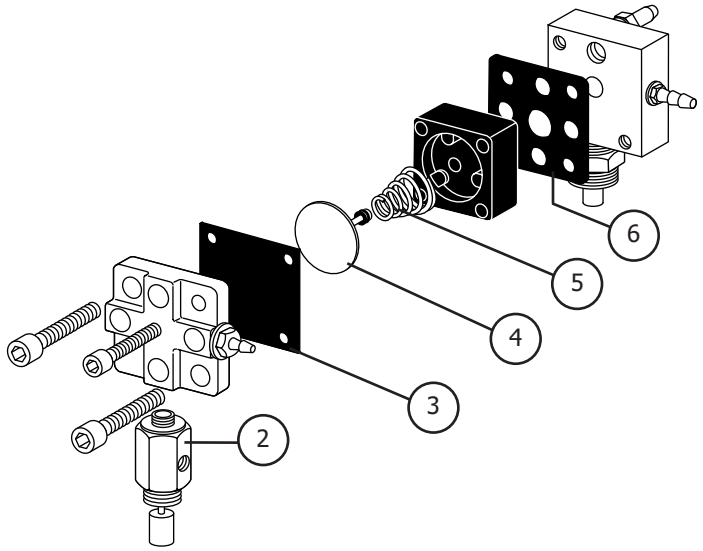
Location of Pilot Air Mini-Valve

Timed Bowl Rinse Relay Valve

Item #	Part Number	Description
1	12.0913.00	Timed bowl rinse relay valve
2	12.0920.00	Needle valve assembly
3	22.0440.02	Diaphragm pkg 10
4	24.0132.00	Delrin piston with o-ring
5	013.032.00	Spring
6	24.0137.01	Nine-hole gasket pkg 10



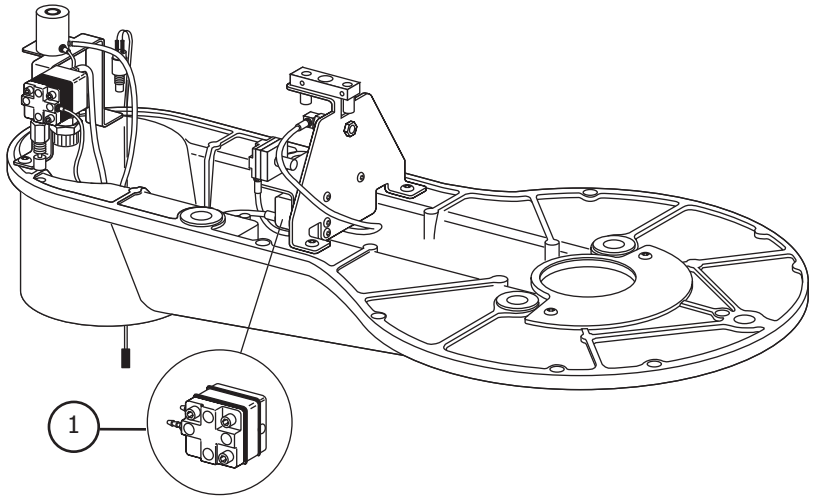
Location of Timed Bowl Rinse Relay Valve



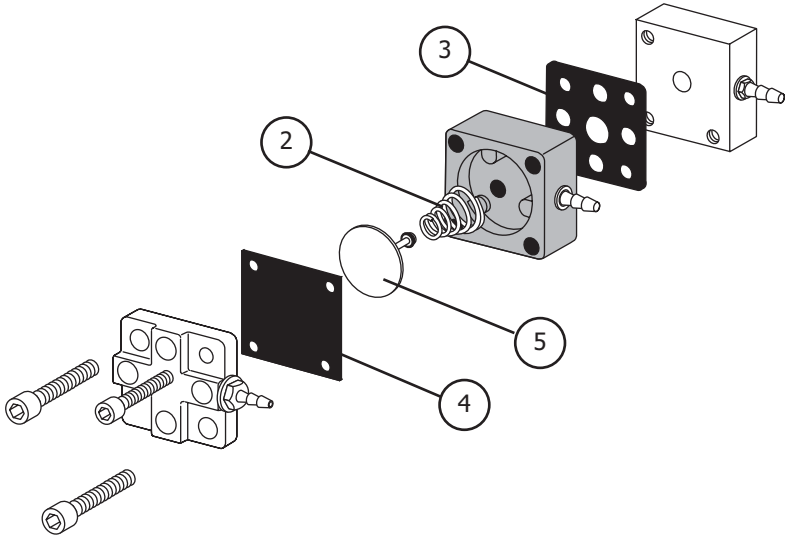
12.0913.00 Timed Bowl Rinse Relay Valve

Cup Fill Water Relay Valve

Item #	Part Number	Description
1	12.0934.00	Cup fill water relay valve assy
2	013.032.00	Spring
3	24.0137.01	Nine-hole gasket pkg 10
4	24.0440.02	Diaphragm pkg 10
5	24.0132.00	Delrin piston with o-ring

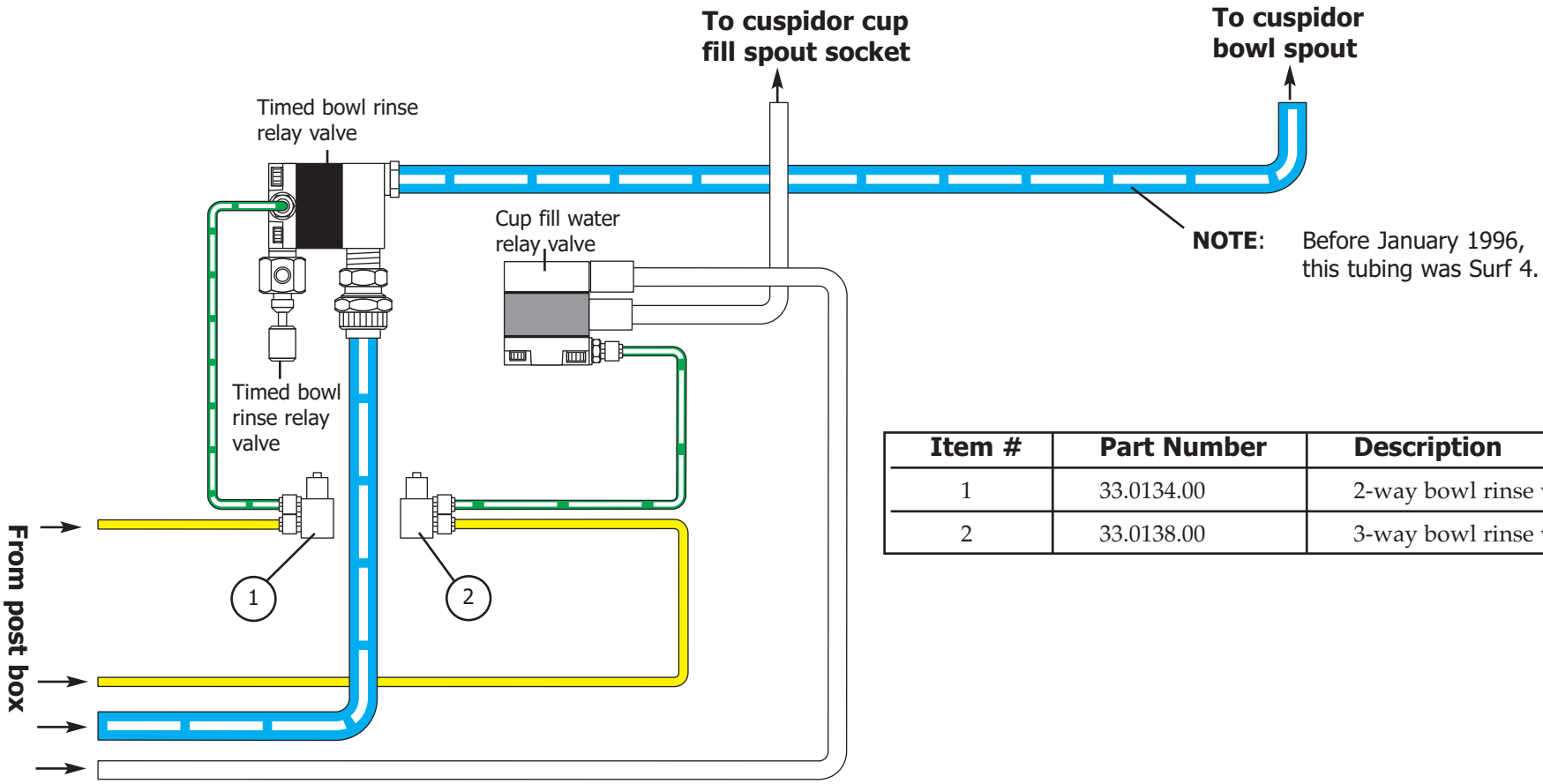


Location Of Cup Fill Relay Valve



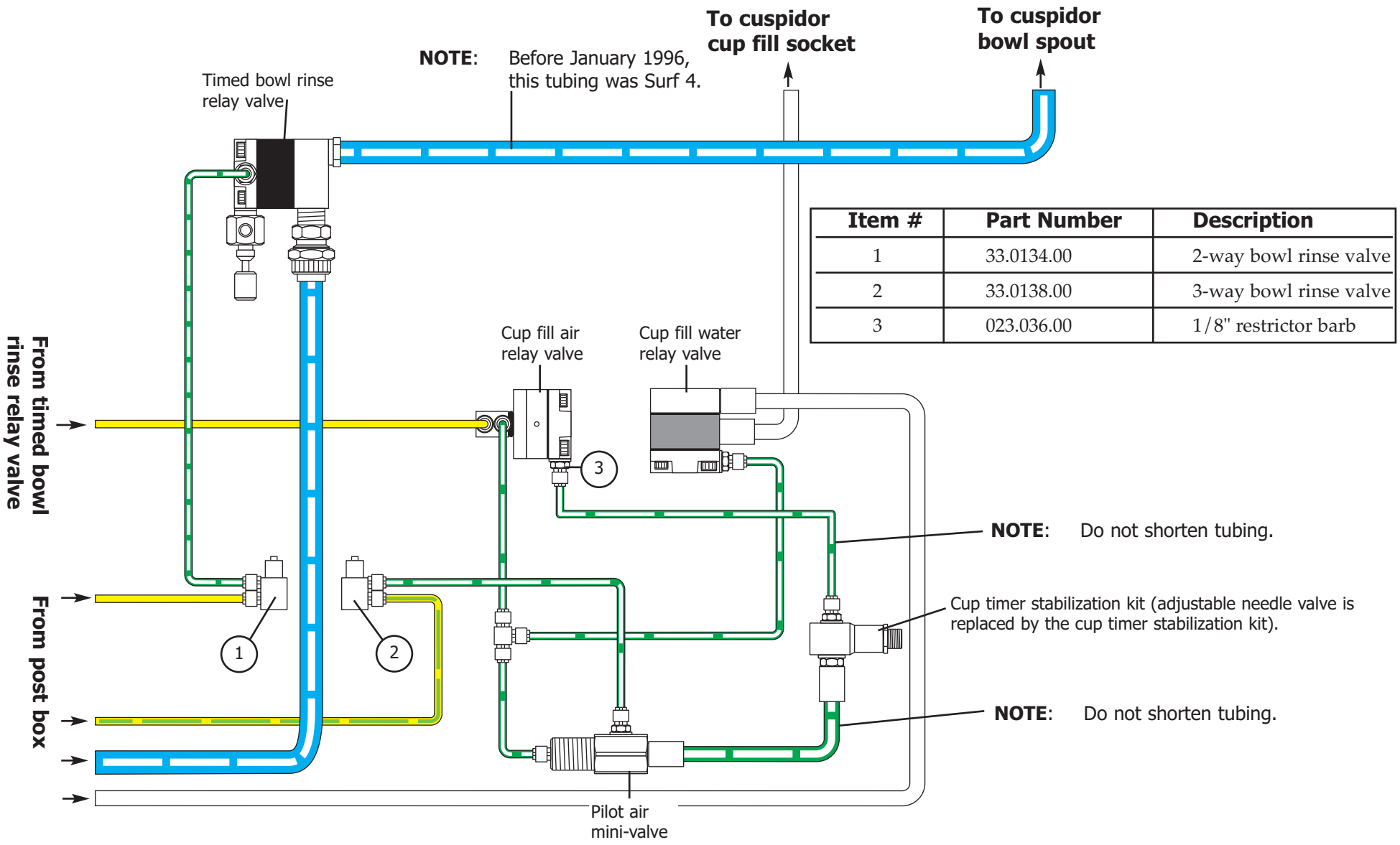
12.0934.00 Cup Fill Relay Valve

Manual Cuspidor Flow Diagram


To cuspidor cup fill spout socket
To cuspidor bowl spout
Timed bowl rinse relay valve
Cup fill water relay valve
NOTE: Before January 1996, this tubing was Surf 4.
Timed bowl rinse relay valve
From post box
1
2

Item #	Part Number	Description
1	33.0134.00	2-way bowl rinse valve
2	33.0138.00	3-way bowl rinse valve

Automatic Cuspidor Flow Diagram


To cuspidor cup fill socket
To cuspidor bowl spout
NOTE: Before January 1996, this tubing was Surf 4.
Timed bowl rinse relay valve
Cup fill air relay valve
Cup fill water relay valve
From timed bowl rinse relay valve
From post box
1
2
3
NOTE: Do not shorten tubing.
Cup timer stabilization kit (adjustable needle valve is replaced by the cup timer stabilization kit).
NOTE: Do not shorten tubing.
Pilot air mini-valve

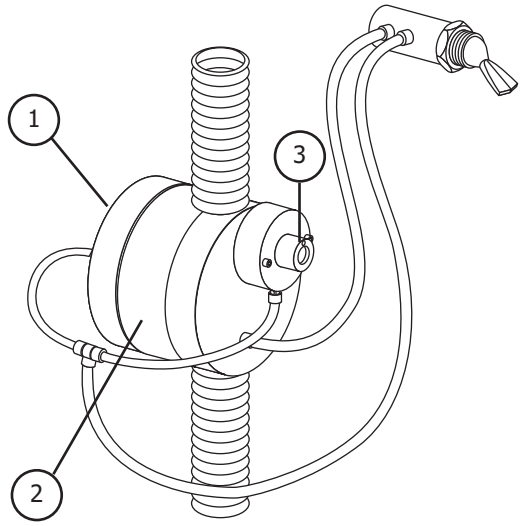
Item #	Part Number	Description
1	33.0134.00	2-way bowl rinse valve
2	33.0138.00	3-way bowl rinse valve
3	023.036.00	1/8" restrictor barb

Adjusting the Vacuum Drain Valve

The vacuum drain valve has been pre-set at the factory. Varying water or vacuum conditions may require further adjustment if vacuum drain valve does not turn off or water backs up into the cuspidor bowl.

To adjust the drain valve:

Task	Description
1	Use a standard screwdriver to turn the water sensing adjustment screw clockwise until you hear the actuator beginning to open. **NOTE**: When the valve is open, the diaphragm in it may vibrate, causing a high pitch noise.
2	Turn the adjustment screw counterclockwise until you hear the vacuum drain valve close; then turn the screw 1/8" counterclockwise.
3	Test for correct function by rinsing the cuspidor. If water backs up into the cuspidor bowl • Turn the adjustment screw slightly clockwise to decrease the amount of water required to open the valve, or • Turn the adjustment screw counterclockwise to increase the amount of water required to open the valve.



Vacuum Drain Assembly

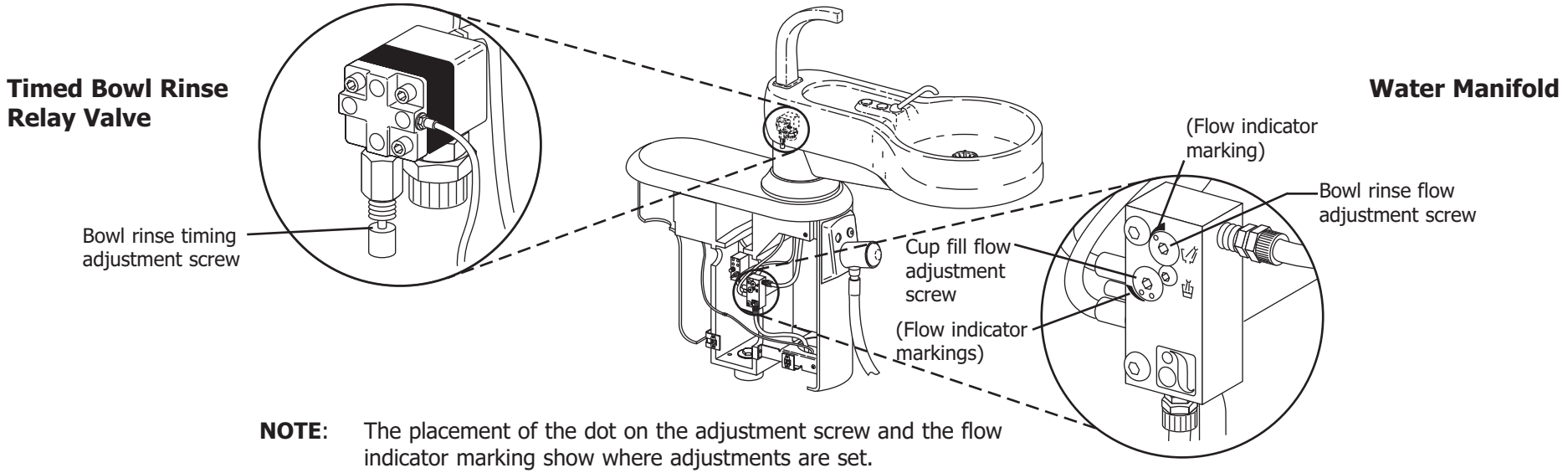
Item #	Description
1	Water sensor body
2	Vacuum drain valve
3	Water sensor adjustment screw

Adjusting the Bowl Rinse and Cup Fill Flow

The bowl rinse time can be adjusted by turning the timed bowl rinse relay adjustment screw (accessed from the underside of the cuspidor housing).

The cup fill and bowl rinse flow can be adjusted by turning the adjustment screw, found on the water manifold, inside the post box.

To...	Do this...
Increase bowl rinse time	Adjust screw clockwise (tighten)
Decrease bowl rinse time	Adjust screw counterclockwise (loosen)
Increase cup fill or bowl rinse flow	Adjust screw clockwise
Increase cup fill or bowl rinse flow	Adjust screw counterclockwise


Timed Bowl Rinse Relay Valve
Bowl rinse timing adjustment screw
Water Manifold
(Flow indicator marking)
Bowl rinse flow adjustment screw
Cup fill flow adjustment screw
(Flow indicator markings)

NOTE: The placement of the dot on the adjustment screw and the flow indicator marking show where adjustments are set.

Adjustment Screw Locations

Troubleshooting Cup Fill, Bowl Rinse, and Valve Controls

Tips and troubleshooting information are listed to assist in distinguishing cuspidor and valve control problems.

Problem	Action
Burst of water from cup fill or bowl rinse when first used	Check water pressure from floor box. If below 30 psi • adjust water pre-regulator to 30-40 psi, and • retest cup fill or bowl rinse function.
Inconsistent cup fill function	Check for cup fill stabilization kit installation. If the kit is not installed, install it (P/N 90.0456.00)
Air leak around the lo-flo needle valve	If air leaks around the lo-flo needle valve • tighten any loose connections • replace defective parts, and • test cup fill function.
Moisture in air lines or valves	If moisture is present in the air lines or valves • dry out or replace all tubings or valves • determine source of moisture and replace defective parts, and • test cup fill function.
Bowl rinse timing is incorrect, too short or too long	Adjust the bowl rinse timing. After locating the timing adjustment (under the cuspidor bowl housing) • increase the bowl rinse by turning the adjustment screw clockwise, or • decrease the bowl rinse by turning the adjustment screw counterclockwise.